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(71) Applicants
Aktiebolaget Statens
Skogsindustrier,
Sveavägen 59,
S-105 22 Stockholm,
Sweden.
(72) Inventors
Lars-Olof Johansson
(74) Agents
Sommerville & Rushton,
89 St. Peters Street,
St. Albans,
Herts. AL1 3EN.

(54) **Tongue and groove particle board**

(57) Swelling of the tongues and grooves of floor and ceiling particle board as a result of moisture can be avoided by coating all the surfaces of both the tongue and the groove with a water-proofing plastics layer.

SPECIFICATION

Tongue-and-groove particle board for floors and ceilings, and a method of manufacturing such board

The present invention relates to tongue-and-groove particle board for floors and ceilings, and a method of manufacturing such board.

Ceiling and floor boards of the aforementioned kind are, at times, stored in unfavourable conditions, such as to be exposed to moisture. The profiled edges of the board are those parts thereof which most readily absorb moisture, resulting in swelling of said profiled edges. When swollen, it is difficult to fit the tongues and grooves together. A minor degree of swelling is also obtained as a result of the fact that water-based glues are often used for bonding profiled edge surfaces together.

When building small dwelling houses, the normal method is first to lay the floor beams and the floor, and then to build the walls and roof. The unprotected floor is often exposed to rain water. Although the floor particle-boards are able to withstand moisture, water penetrates into the cracks formed in the joints between the boards, despite the fact that the boards are glued to each other at the tongues and grooves. As a result hereof, the boards swell in the vincinities of the tongues and grooves, resulting in irregularities along the joints.

This swelling of the boards as a result of contact with water and moisture is highly undesirable. Consequently, the object of the present invention is to provide a tongue-and-groove ceiling or floor particle board which will not swell in the vicinity of the tongues and grooves when subjected to moisture. This is achieved in accordance with the invention in that a board of the afore-described type is characterized in that all surfaces of both the tongue and the groove are coated with a water-proofing plastics layer.

A board according to the invention is produced by a method which is characterized in that all surfaces of both the tongue and the groove are coated with a water-proofing plastics layer.

In the method according to the invention, immediately after forming, e.g. by milling, the tongue and groove profiles on selected edge surfaces of a board, each surface of said tongue and groove is coated with a plastics solution or plastics dispersion in a manner such that the surfaces are sealed and impervious to water. The solution or dispersion can be applied to the profiled surfaces by means of foam-plastic rollers provided in such number and in such arrangement as to cover each surface of said tongue and groove. Normally the tongue and the groove extend over the whole thickness of the board. Should this not be so, however, those surfaces of the edges of a board not covered by a groove or a tongue are also suitably coated with a water-proofing plastics layer, so that all the bonding surfaces (the edge surfaces) are coated.

One advantage afforded by the use of a plastics material in a form of an aqueous dispersion (suspension or emulsion) is that troublesome vapours and gases are not formed when the liquid evaporates.

Examples of plastics dispersions and solutions which can be used with the method according to the invention are aqueous dispersions of acryl resins, e.g. Acrylex® from Klint, Bernhard & Co. AB, Nacka, Sweden and "Färglös lasyrgrund" - obtained from the same manufacturer.

CLAIMS

1. Tongue-and-groove particle board for floors and ceilings, characterized in that all surfaces of both the tongue and the groove are coated with a water-proofing plastics layer.

2. A method in the manufacture of tongue-and-groove particle board for floors and ceilings, characterized in that all surfaces of both the tongue and the groove are coated with a water proofing plastics layer.

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